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SUBJECT: Guangdong Strengthens Infectious Disease Research Capacity
- Is It Enough?

REF: 07 GUANGZHOU 1266

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11. (SBU) Summary: The Chinese central and Guangdong provincial governments have invested significant resources to expand the province's infectious disease research capacity; this includes two new infectious disease research institutes. Obstacles remain to the development of an effective research infrastructure, including limited funds, lack of coordinated strategy, and inadequate facilities for handling highly-infectious specimens. End summary.

Building and Expanding Infrastructure of New Institutes

12. (U) China has learned numerous lessons from the 2003 SARS outbreaks in the south, few more important than the importance of developing research infrastructure for diagnostics, vaccines, and therapies to deal with emerging infectious diseases, especially respiratory diseases. As a result, two new research institutes have been established: the Guangzhou Institute of Respiratory Diseases (GIRD) and the Guangzhou Institute of Biomedicine and Health (GIBH).

13. (U) GIRD was first established in the 1970's as part of the First Hospital of Guangzhou Medical College, which receives the majority of its funding from the provincial and municipal governments. Although led by Dr. ZHONG Nanshan, the well known respiratory disease clinician, the institute has but a very small research program - only 4 principle investigators and approximately 30 staff. The Institute focuses on the clinical aspects of viral respiratory diseases, particularly influenza, avian influenza, and SARS. GIRD also researches the side effects of using anti-viral drugs and corticosteroids to treat viral respiratory infections. It has a large collection of specimens and a valuable patient database.

14. (U) After the 2003 SARS outbreak, GIRD's role in emerging respiratory diseases research became more prominent. To further expand capacity, the First Hospital of the Medical College is constructing a brand new 32-story facility, in which GIRD will occupy 11 stories. It will be able to establish a new clinical trial unit capable of phase 1 and 2 studies. Construction of the new facility is being funded by the municipal and provincial governments at an estimated 240 million RMB (USD 34.3 million). This expansion will make conducting additional human clinical research of new vaccines and drugs for respiratory diseases possible in South China; at this point, such clinical studies are still not very common.

15. (U) The second institute, GIBH, was founded in 2005 in response to the 2003 SARS outbreak. It was established jointly by the Chinese Academy of Sciences (CAS), and Guangdong provincial and Guangzhou municipal governments, with a combined initial investment of 300 million RMB (USD 42.9 million) (reftel). Within two years of its establishment, more than 20 principal investigators, mostly from overseas, and over 400 technical staff were recruited by the institute. GIBH's is also constructing new facilities. Its new main campus, on the outskirts of Guangzhou, will house comprehensive research and development programs, from early discovery to preclinical developments of vaccines and drugs. A primate center for conducting preclinical research on infectious diseases is included in the plan. Thus far, GIBH has attracted international interest from both the U.S. and Europe for its potential as a major collaborator in South China.

16. (U) GIBH's initial focus was to find ways to turn basic research into new diagnostics, vaccines, and drugs to combat emerging infectious diseases and HIV infection. Currently, GIBH researches on infectious diseases include the search for new vaccines for HIV, influenza, and malaria, of new treatments for herpes simplex virus (HSV) and influenza virus infection, and the development of rapid, simple diagnostic technology for viral pathogens. The technology will include a rapid test for AI infections based on viral gene sequences.

17. (U) Better research infrastructure is also being developed at Guangdong's leading university, Sun Yat-sen (Zhongshan) University. Sun Yat-sen University receives more central government research funding for life sciences than any other university in China. Funded by the "863" and "973" Projects of the Ministry of Science and Technology (MOST) and the Chinese Natural Science Foundation, the University School of Life Sciences has a biosafety level 3 (BSL

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3) facility - it's a joint research laboratory with a local biotech. Both the School of Life Sciences and School of Medicine have established programs to study host immunity in relation to infectious diseases using genomic technologies. Researchers at the schools are developing new vaccines and promoting the discovery of new antibiotics from marine microbes as they work to combat emerging infectious diseases.

Challenges to Research Development

18. (U) Despite significant investment in research infrastructure, the amount of funding - administered by the Ministry of Science and Technology (MOST) - may not be enough. The Institutes under the Ministry of Health (MOH) also receive operational funding from MOH but not enough to operate without additional outside funds. Although Guangdong is the richest province in China by total GDP, the provincial government's support of basic and applied biomedical research for infectious diseases is considered by many researchers here as insufficient. Moreover, the central government in Beijing allocates proportionally more resources to poorer provinces, even though Guangdong is considered a major 'hotbed' for emerging infectious diseases. Therefore, MOH institutes in Guangdong normally fall through the cracks of funding from both the central and provincial governments. Small amounts of funding are now becoming available from the private sector, such as local biotech and pharmaceutical companies, which often collaborate with the research institutions. However, funds from non-government organizations, such as from private foundations, to support public health research initiatives in south China remain almost non-existent.

19. (SBU) In addition, infectious disease research in Guangdong suffers from the lack of a clear strategy at both the national and provincial levels. There is no Chinese counterpart to the U.S. National Institute of Allergy and Infectious Disease which can effectively chart a concrete research strategy, prioritize research programs and resource allocation, and coordinate research efforts in the infectious diseases area. Chinese researchers and top

government officials, including Dr. CHEN Zhu (the Chinese Minister of Health who in his last visit to the U.S. in 2007 was the President of CAS), have previously voiced the need for such a strategy and coordination.

¶10. (U) Applied research, which is necessary to develop basic research into vaccines, tests and treatment, is not as highly respected in Chinese academia as the basic research. China adapts and heavily relies on scores of science citation index (SCI) and impact factor (IF) of publications to evaluate researchers' achievements. Normally, results of applied life science research are published in journals with low IF and low SCI.

¶11. (U) Guangdong also lacks proper biosafety facilities for the research of highly infectious specimens. The current biosafety level (BSL) 2 and 3 facilities in Guangdong are limited and insufficient to support research needs. Many provincial infectious disease hospitals and research institutions, including Guangdong CDC, GIBH, and GIRD, do not have adequate laboratory facilities for handling highly infectious specimens. In addition, with very few exceptions, there is a general lack of knowledge of how to construct or maintain a proper BSL facility within a research setting.

Addressing the Challenges

¶12. (U) In order to confront these challenges, several prominent south China researchers have been promoting the consolidation and sharing of research resources between institutions and provinces. Last year, GIRD and GIBH formed a joint national key laboratory for respiratory diseases by combining the research strengths of each institute. Pending final inspection, this joint initiative is expected to receive funding of up to 15 million RMB (USD 2.1 million) from MOST under the auspices of the national "973" Project for funding research of respiratory diseases. In addition, Guangdong researchers are looking for new international research collaborations and funding opportunities.

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